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Claims

1. A polynucleotide in substantially isolated form, comprising a contiguous nucleotide sequence (a) coding for a human antibody with factor VIII specificity, or (b) complementary to a nucleotide sequence coding for a human antibody with factor VIII specificity, or (c) capable of selectively hybridizing under stringent conditions to nucleotide sequence (a) or (b).

2. A polynucleotide according to claim 1, wherein said contiguous nucleotide sequence is at least 8, preferably at least 10 nucleotides.

3. A probe or primer which comprises a polynucleotide according to claim 1 or claim 2, optionally further comprising a detectable label, such as a radioactive atom or group, an enzyme, a fluorescent or luminescent group, a dye or biotin.

4. An assay kit for detecting nucleic acid coding for a human antibody with factor VIII specificity, comprising a probe or primer according to claim 3 in a suitable container.

5. A nucleic acid amplification and detection kit for detecting nucleic acid coding for a human antibody with factor VIII specificity, comprising a pair of primers according to claim 3 capable of priming the synthesis of cDNA, and optionally further comprising a probe according to claim 3 capable of selectively hybridizing to (the complement of) a region of the nucleic acid to be detected between and not including the sequences from which the primers are derived.

6. A method for assaying a sample for the presence or absence of nucleic acid coding for a human antibody with factor VIII specificity, comprising contacting the sample with a probe according to claim 3 under conditions that allow the selective hybridization of said probe to the (complement of the) nucleic acid to be detected in the sample, and determining whether polynucleotide duplexes comprising said probe are formed.

7. A method for assaying a sample for the presence or absence of nucleic acid coding for a human antibody with factor VIII specificity, comprising subjecting nucleic acid present in the sample to a nucleic acid amplification process using a

pair of primers according to claim 3 capable of priming the synthesis of cDNA, contacting the nucleic acid resulting from the amplification process with a probe according to claim 3 under conditions that allow the selective hybridization of said probe to the (complement of the) nucleic acid to be detected in the sample, and determining whether polynucleotide duplexes comprising said probe are formed.

8. A method of producing a recombinant polypeptide, comprising providing a polynucleotide coding for said polypeptide, preparing a recombinant vector containing said polynucleotide operably linked to a control sequence capable of providing for the expression of the polynucleotide by a host cell, transforming a host cell with said recombinant vector, growing said host cell under conditions that provide for the expression of the polynucleotide and optionally isolating the thus produced polypeptide, wherein said polynucleotide codes for a human antibody with factor VIII specificity, or a fragment or derivative thereof capable of specific binding to factor VIII.

9. A polypeptide in substantially isolated form, comprising a contiguous amino acid sequence corresponding to or mimicking a fragment or derivative of a human antibody with factor VIII specificity capable of specific binding to factor VIII.

10. A polypeptide according to claim 9, wherein said contiguous amino acid sequence is capable of reducing the activity of factor VIII inhibiting antibodies.

11. A polypeptide according to claim 9 or claim 10, wherein said fragment is (part of) a variable region of the heavy chain or light chain of said antibody.

12. A polypeptide according to claim 9 or claim 10, wherein said derivative is a single chain Fv fragment of said antibody.

13. An antibody in substantially isolated form, comprising a recombinant human antibody with factor VIII specificity or an anti-idiotypic antibody directed against a human antibody with factor VIII specificity.

14. A pharmaceutical composition for the treatment of factor VIII inhibition in a human individual, comprising a polypeptide according to any one of claims 9-12 or an antibody according to claim 13, together with a pharmaceutically acceptable carrier.

15. A composition according to claim 14, which further contains factor VIII or a substitute of factor VIII.

16. A method of treatment of factor VIII inhibition in a human individual, comprising administering to said individual a polypeptide according to any one of claims 9-12 or an antibody according to claim 13, optionally together with factor VIII or a substitute of factor VIII.

17. A polypeptide capable of specific binding to factor VIII and interference with the activity of factor VIII inhibitors, which polypeptide comprises the variable part of the heavy chain of a human antibody with factor VIII specificity or a part thereof which at least includes the CDR3 region.

18. A polypeptide according to claim 17 which essentially consists of (a) the CDR3 region of the variable part of the heavy chain of a human antibody with factor VIII specificity, (b) an antibody fragment containing the variable part of the heavy chain of a human antibody with factor VIII specificity, or (c) a single chain Fv fragment containing the variable part of the heavy chain of a human antibody with factor VIII specificity.

19. A polynucleotide in substantially isolated form, coding for a polypeptide according to claim 17 or 18.

20. A pharmaceutical composition for the treatment of factor VIII inhibition in a human individual, comprising a polypeptide according to claim 17 or 18 together with a pharmaceutically acceptable carrier.

21. A pharmaceutical composition according to claim 20, which further contains factor VIII or a substitute of factor VIII.

22. A method of treatment of factor VIII inhibition in a human individual, comprising administering to said individual a polypeptide according to claim 17 or 18.

23. A method of treatment of factor VIII inhibition in a human individual, comprising administering to said individual a polypeptide according to claim 17 or 18 together with factor VIII or a substitute of factor VIII.

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